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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/653,272	08/31/2000	Salman Akram	4181US (96-973.2)	4727
7590	08/04/2004		EXAMINER	
			GARLAND, STEVEN R	
			ART UNIT	PAPER NUMBER
			2125	

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/653,272

Applicant(s)

AKRAM ET AL.

Examiner

Steven R Garland

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2004 and 10 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-108 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-39 is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☒ Claim(s) 4,5,12-16,42-44,48,54-58,64,75-79,84,94-99,104 and 108 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05/10/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Continuation of Disposition of Claims: Claims rejected are 1-3,6-11,17-30,40,41,45-47,49-53,59-63,65-74,80-83,85-93,100-103 and 105-107.

DETAILED ACTION

1. The disclosure is objected to because of the following informalities: the status of the various copending applications such as those listed on page 2 should be updated.

Appropriate correction is required.

Note is taken that on page 2 of the response that it is stated that a substitute specification along with a marked up copy of the specification were being submitted, however neither the substitute or marked up copy of the specification were received.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,2,7-11,40,41,46,47, and 50-53 are rejected under 35 U.S.C. 102(e) as being anticipated by Beffa 5,927,512 (cited by applicant).

Beffa discloses identification of an IC, use of a fuse or optical ID, reading the ID, storing data associated with the ID; testing, and accessing data to control processing. See the abstract; figures; col. 1, line 1 to col. 3, line 67; col. 4, line 60 to col. 5, line 50 ; col. 6, lines 3-65.

In response to applicant's arguments, Beffa also teaches storing test data associated with the ID and that the test data can be test results from the various stages of the test step. The test results from the various stages inherently identify the procedures the device has undergone. See col. 6, lines 1-65 and note 55-58.

4. Claims 1,2,6-11,17-27,40,41,45-47,50-53,59-63,66-68,73,74,80-83,86-88,93,100-103,106, and107 are rejected under 35 U.S.C. 102(e) as being anticipated by Beffa 5,915,231 .

Beffa discloses identification of an IC, use of a fuse or optical ID, reading the ID, storing data associated with the ID; testing, and accessing data to control processing. Beffa further teaches singulating; forming MCM devices, curing, bonding, sawing, etc. See the abstract; figures; col. 1, lines 28-67; col. 2, line 29 to col. 3, line 47; col. 3, line 59 to col. 4, line 44; and note the claims. Further note is taken that the devices when correctly processed have information associated with the ID that provides information as to the processes they have undergone.

In response to applicant's arguments, Beffa teaches that data is stored in association with the ID that indicates the process flow the device is to take, when the device takes the correct process flow the data then indicates the procedures the device has actually undergone. Note col. 2, line 29 to col. 3, line 47. Further applicant argues that the data in the identification code is based on manufacturing procedures, however claim 1 for example requires that the identification be associated with the data not based on it as applicant appears to be arguing.

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5. Claims 1,2,6,8,10,17-19,25,26,40,41,45,47,49,50,59-61,65,80,81,85,100,101, and 105 are rejected under 35 U.S.C. 102(b) as being anticipated by Shils et al. 4,510,673 (cited by applicant).

Shils et al. discloses identification of an IC, optically reading the ID, testing, probe testing, bar coding, storing information associated with the ID, using the information to control processing, forming multi chip modules, . See the abstract; figures; col. 1, lines 7-43; col. 2, lines 61-64; col. 3, lines 11-58; col. 4, lines 17-60; col. 5, lines 7-67; col. 6, lines 17-49; and the claims.

In response to applicant's arguments, claim1 for example requires the use of an identification code and storing data in association with the identification code identifying manufacturing procedures the device has undergone. The applicant however argues that the data in the identification code is based on the manufacturing procedures which claim does not require. The claim requires that the data be associated with the identification code which limitations are met by Shils in the sections noted above.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 3, 11, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shils et al. 4,510,673.

Shils et al. discloses identification of an IC, optically reading the ID, testing, probe testing, bar coding, storing information associated with the ID, using the information to control processing, forming multi chip modules, . See the abstract; figures; col. 1, lines 7-43; col. 2, lines 61-64; col. 3, lines 11-58; col. 4, lines 17-60; col. 5, lines 7-67; col. 6, lines 17-49; and the claims.

Shils however does not specifically state that data is stored related to repairs or specifically identify the type of test at which the ID is read.

Shils does teach reworking (repairing) and storing additional information for later use and testing. Note col. 6, lines 17-49.

It would have been obvious to one of ordinary skill in the art to modify Shils to store data related to the rework so that it could be used at a later time and further it would have been obvious to one of ordinary skill in the art to modify Shils to access the stored data at the back end test so that defective devices are not shipped.

In response to applicant's arguments, claim 1 for example requires the use of an identification code and storing data in association with the identification code identifying

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manufacturing procedures the device has undergone. The applicant however argues that the data in the identification code is based on the manufacturing procedures which claim does not require. The claim requires that the data be associated with the identification code which limitations are met by Shils in the sections noted above.

Further, as explained above, Shils does specifically teach reworking (repairing), storing data for later use, and one of ordinary skill in the art would know that it is not desirable to ship defective products to a customer.

Further in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

9. Claims 68-72, and 88-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beffa 5,915,231 in view of Vu et al. 5,256,562.

Beffa discloses identification of an IC, use of a fuse or optical ID, reading the ID, storing data associated with the ID; testing, and accessing data to control processing. Beffa further teaches singulating; forming MCM devices, curing, bonding, etc. See the abstract; figures; col. 1, lines 28-67; col. 2, line 29 to col. 3, line 47; col. 3, line 59 to col. 4, line 44; and note the claims. Further note is taken that the devices when correctly

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processed have information associated with the ID that provides information as to the processes they have undergone.

Beffa however does not teach the use of a laser or water jet for cutting. Beffa however does teach sawing and singulating. Note claim 23 for example.

Vu et al. teaches the alternatives of a laser, water jet, or saw to separate semiconductor elements. See col. 7, lines 33-42.

It would have been obvious to one of ordinary skill in the art to modify Beffa in view of Vu and use a laser or water jet to separate the devices. This would provide a longer lasting cutting element.

In response to applicant's arguments, Beffa teaches that data is stored in association with the ID that indicates the process flow the device is to take, when the device takes the correct process flow the data then indicates the procedures the device has actually undergone. Note col. 2, line 29 to col. 3, line 47. Further applicant argues that the data in the identification code is based on manufacturing procedures, however claim 1 for example requires that the identification be associated with the data not based on it as applicant appears to be arguing.

Further in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

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reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

10. Claims 18-24 are objected to because of the following informalities: in parent claim 18, line 11, "die" should be -- device--. The other claims are objected to since they depend on the objected to parent claim 18. Appropriate correction is required.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 28-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 28, line 33, " the ID of each semiconductor device assembly package" lacks a proper antecedent basis and it is also suggested that the phrase be changed to -- an ID of each semiconductor device assembly package--.

In claim 28, line 34, " the data stored in association with the ID" lacks a proper antecedent basis, it is suggested that the phrase be changed to -- data stored in association with the ID --.

The dependent claims fall with the parent claim.

13. Claims 31-39 are allowed.

14. Claims 4,5,12-16,27,42-44,48,54-58,64,75-79,84,94-99,104, and 108 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

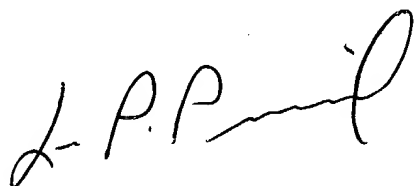
15. Claim 28 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
16. Claims 29 and 30 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven R Garland whose telephone number is 703-305-9759. The examiner can normally be reached on Monday-Thursday from 6:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard, can be reached on 703-308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SRD
Steven R Garland
Examiner
Art Unit 2125

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100